RECLAMATION
Managing Water in the West

Draft FINDING OF NO SIGNIFICANT IMPACT

South Interconnection between North Kern Water Storage District and Shafter-Wasco Irrigation District

FONSI-10-059

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U.S. Department of the Interior
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November 2010

Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the Bureau of Reclamation (Reclamation), has determined that the awarding of a 2010 Water and Efficiency WaterSMART Grant program (WaterSMART Grant) to Shafter-Wasco Irrigation District (SWID) will not significantly affect the quality of the human environment and an Environmental Impact Statement is not required. This draft Finding of No Significant Impact (FONSI) is supported by Reclamation's draft Environmental Assessment (EA) Number EA-10-059, *South Interconnection between North Kern Water Storage District and Shafter-Wasco Irrigation District*, and is hereby incorporated by reference.

Reclamation intends to provide the public with an opportunity to comment on the draft FONSI and draft EA during a public review period.

Background

SWID and North Kern Water Storage District (NKWSD) are located in the San Joaquin Valley portion of Kern County, California a few miles north of Bakersfield. Both districts surround the cities of Shafter and Wasco and share a common boundary on the eastern side of SWID and the western side of NKWD.

SWID has been banking water in NKWSD since 1993; however, the physical capacity to return previously banked water has limited the scope of the program due to temporary connections between the districts. In addition, due to lack of connecting infrastructure, it is difficult for SWID to divert water into their southerly system from NKWSD. Consequently, SWID has applied for a 2010 Water SMART Grant for the construction of an intertie between NKWSD's 8-5 Lateral Canal and SWID's Lateral 137.2 underground pipeline.

If construction work does not occur within 30 days of the previous survey for kit foxes and burrowing owls, SWID will implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (see Table 1). Environmental consequences for resource areas assume the measures specified will be fully implemented. Copies of any biological resource survey reports must be submitted to Reclamation.

Table 1 Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources	Preconstruction surveys and implementation of avoidance and minimization measures for burrowing owl.
Biological Resources	Preconstruction surveys and implementation of avoidance and minimization measures for San Joaquin kit fox.

Reclamation's finding that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following factors:

FINDINGS

Water Resources

The Proposed Action will enable SWID and NKWSD to move water more efficiently between their districts. It will also allow NKWSD to return banked water by SWID that previously had been unable to be returned due to capacity restrictions from the temporary infrastructure between the districts. The proposed facilities will also provide the infrastructure for SWID and NKWSD to participate in future exchanges, transfers, or banking programs which will allow them to better manage fluctuating water supplies in order to meet existing and future water demands. Consequently, the Proposed Action will have beneficial impacts on surface water resources within the districts. Additional surface water and groundwater banking for conjunctive use will reduce the need to pump additional groundwater without recharge to meet irrigation demands. This will prevent additional subsidence in the area by reducing demands on the critically overdrafted groundwater basin providing a slight beneficial impact to groundwater resources.

Land Use

During construction of the Proposed Action, approximately 11 almond trees will be removed from an existing orchard. These trees will be replanted once construction is complete. Although the Proposed Action area is considered Prime Farmland, impacts will be temporary and the area restored to its current use once construction was complete. Therefore, there will be no significant impact to land use or agricultural resources as a result of the Proposed Action.

Biological Resources

There will be a temporary disturbance as a result of the tree removal and trenching for the pipeline. Currently there are no special-status species using the portion of the Proposed Action area that will be impacted. If the work does not occur within 30 days of the previous survey for kit foxes and burrowing owls, another survey will be required. Avoidance measures will be required for kit foxes, and for burrowing owls if any are subsequently found. The survey and measures will prevent any impacts on special-status species. Consequently, Reclamation has determined that no federally listed or proposed species or critical habitat will be impacted as a result of the Proposed Action and consultation is not required.

Cultural Resources

Under the Proposed Action, construction will disturb a portion of the 8-5 Lateral Canal Lateral, a section of the 137.2 pipeline, and up to 11 trees within an immediately adjacent orchard. Identification efforts, as outlined in the affected environment section, were conducted and revealed the 8-5 Lateral Canal and the Lateral 137.2 underground pipeline were the only cultural resources within the Proposed Action footprint. Due to the short timeline of the Proposed Action, the limited opportunity for background research, and the minor action activities, Reclamation, assumed, for the purposes of this action and this action only, that the Lateral 137.2 underground pipeline was eligible to the National Register of Historic Places. The 8-5 Lateral was recently built and does not meet the criteria to be considered a historic property.

Reclamation determined that the Proposed Action impacts will not have a significant impact on historic properties pursuant to 36 CFR Part 800.5(b) and initiated consultation with the State Historic Preservation Officer (SHPO) on October 29, 2010. SHPO concurred with Reclamation's finding on November 2, 2010.

Indian Trust Assets

There will be no impacts to Indian Trust Assets (ITA) as there are none in the Proposed Action area.

Environmental Justice

The Proposed Action will not cause dislocation, changes in employment, or increase flood, drought, or disease nor will it disproportionately impact economically disadvantaged or minority populations. Therefore, there will be no significant impact to minority and low-income populations as a result of the Proposed Action.

Socioeconomic Resources

The ability to more efficiently move water between SWID and NKWSD will allow the districts to better manage their fluctuating water supply. A more reliable supply is expected to have a beneficial impact on socioeconomic resources within the districts and the farming community by providing job stability and better planning.

Air Quality

Operation of the proposed intertie will not contribute to criteria pollutant emissions, as movement of water will be gravity fed. However, there will be temporary emissions associated with construction activities. Estimated construction emissions are well below the *de minimis* thresholds established by the San Joaquin Valley Air Pollution Control District. In addition, SWID will employ best management practices to reduce fugitive dust emissions during ground disturbance. Consequently, the Proposed Action will not result in a significant impact upon air quality.

Global Climate Change

Estimated annual emissions of carbon dioxide (CO_2) for construction of the Proposed Action are 5.13 tons. Therefore the Proposed Action's construction timeframe of 3 months will equate to approximately 1.3 tons of CO_2 emissions. There are no estimated emissions for methane (CH_4). Operation of the proposed intertie will not produce greenhouse gases (GHG) as movement of water will be gravity-fed and will not require the use of power. Calculated CO_2 and CH_4 emissions for the construction and operation of the Proposed Action alternatives are estimated to be well below the Environmental Protection Agency's 25,000 metric tons per year threshold for annually reporting GHG emissions. Accordingly, the Proposed Action will result in below *de minimis* impacts respecting global climate change.

Cumulative Impacts

The Proposed Action will provide additional opportunities for SWID and NKWSD to participate in transfers, exchanges and groundwater banking programs as they are developed in the region. Additional opportunities for acquiring surface water supplies woill have a cumulatively beneficial impact on water resources for SWID and NKWSD as they could be banked in times of

surplus for later use during times of need. Banking of surplus surface water would also have a slight cumulatively beneficial impact on groundwater levels as a portion of all banked water is left in the aquifer for recharge potentially reducing further subsidence in the area.

As the Proposed Action will not result in any direct or indirect impacts on land use, special-status species, cultural resources, ITA, or minority and low-income populations, it will not contribute cumulatively to impacts on these resources.

The Proposed Action will have slight beneficial impacts on socioeconomics by sustaining existing crop lands and maintaining economic stability within SWID and NKWSD. It will not increase crop lands or change the existing economic conditions within either district beyond maintaining economic stability within the region and therefore will not contribute to cumulative effects on such resources.

GHG emissions are considered cumulatively significant; however, the estimated annual CO_2 and CH_4 emissions are well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to contribute cumulatively to global climate change.

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

South Interconnection between North Kern Water Storage District and Shafter Wasco Irrigation District

EA-10-059

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California

November 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

AFY	Acre-foot per year
APE	Area of Potential Effect
CAA	Clean Air Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CVP	Central Valley Project
CWA	Clean Water Act
DWR	California Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
FKC	Friant-Kern Canal
FWCA	Fish and Wildlife Coordination Act
GHG	greenhouse gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
mg/m^3	Milligram per cubic meter
M&I	Municipal and Irrigation
MP	Milepost
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NKWSD	North Kern Water Storage District
NO_2	Nitrogen dioxide
NO_x	Nitrous oxides
O_3	Ozone
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter between 2.5 and 10 microns in diameter
Poso Creek IRWMP	Poso Creek Integrated Regional Water Management Plan
Poso Creek RMG	Poso Creek Regional Management Group
PPM	Parts per million
Reclamation	Bureau of Reclamation

SHPO	California State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	Sulfur dioxide
SWID	Shafter-Wasco Irrigation District
SWP	State Water Project
$\mu g/m^3$	Microgram per cubic meter
VOC	Volatile organic compounds
WaterSMART grant	2010 Water and Efficiency WaterSMART Grant program

Section 1 Purpose and Need for Action

1.1 Background

Shafter-Wasco Irrigation District (SWID) and North Kern Water Storage District (NKWSD) are located in the San Joaquin Valley portion of Kern County, California a few miles north of Bakersfield. Both districts surround the cities of Shafter and Wasco and share a common boundary on the eastern side of SWID and the western side of NKWD (see Figure 1-1).

SWID has been banking water in NKWSD since 1993; however, the physical capacity to return previously banked water has limited the scope of the program due to temporary connections between the districts. In addition, due to lack of connecting infrastructure, it is difficult for SWID to divert water into their southerly system from NKWSD. Consequently, SWID has applied to the Bureau of Reclamation (Reclamation) for a grant through the 2010 Water and Efficiency WaterSMART Grant program (Water SMART Grant) for the *South Interconnection between North Kern Water Storage District and Shafter-Wasco Irrigation District* project.

SWID prepared an Initial Study, pursuant to the California Environmental Quality Act (CEQA), for the Proposed Action. A public notice was published with Kern County announcing the availability of the Initial Study for public comment between October 1 and October 30 (see Appendix A).

SWID and NKWSD are members of the Poso Creek Regional Management Group (Poso Creek RMG) which consists of seven agricultural districts and one resource conservation district. The Poso Creek RMG are located in an area bounded by the California Aqueduct, Friant-Kern Canal, and Kern River (see Figure 1-2). In 2007, the Poso Creek Group adopted the Poso Creek Integrated Regional Water Management Plan (Poso Creek IRWMP) in order to address the areas' water supply needs (Poso Creek RMG 2007). Various projects have been completed or proposed (see Figure 1-2) which would enable water to be moved and/or banked within this area. Currently, the Poso Creek IRWMP is undergoing environmental review pursuant to the National Environmental Policy Act (NEPA) and CEQA.

1.2 Purpose and Need

The purpose of the Proposed Action is to provide infrastructure in order to move water between SWID and NKWSD. SWID and NKWSD need the Proposed Action to help better manage fluctuating water supplies in order to meet existing and future water demands.

1.3 Scope

This EA has been prepared to examine the potential for impacts on environmental resources as a result of constructing an intertie between NKWSD's 8-5 Lateral Canal and SWID's Lateral

137.2 underground pipeline as this structure has independent utility from the Poso Creek IRWMP. It has also been prepared to examine the impacts of the No Action Alternative.

Future exchanges and/or banking programs are not part of the Proposed Action and would require additional environmental review, including involvement in the Poso Creek IRWMP.

1.4 Potential Issues

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential impacts and cumulative effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trust Assets (ITA)
- Environmental Justice
- Socioeconomic Resources
- Air Quality
- Global Climate

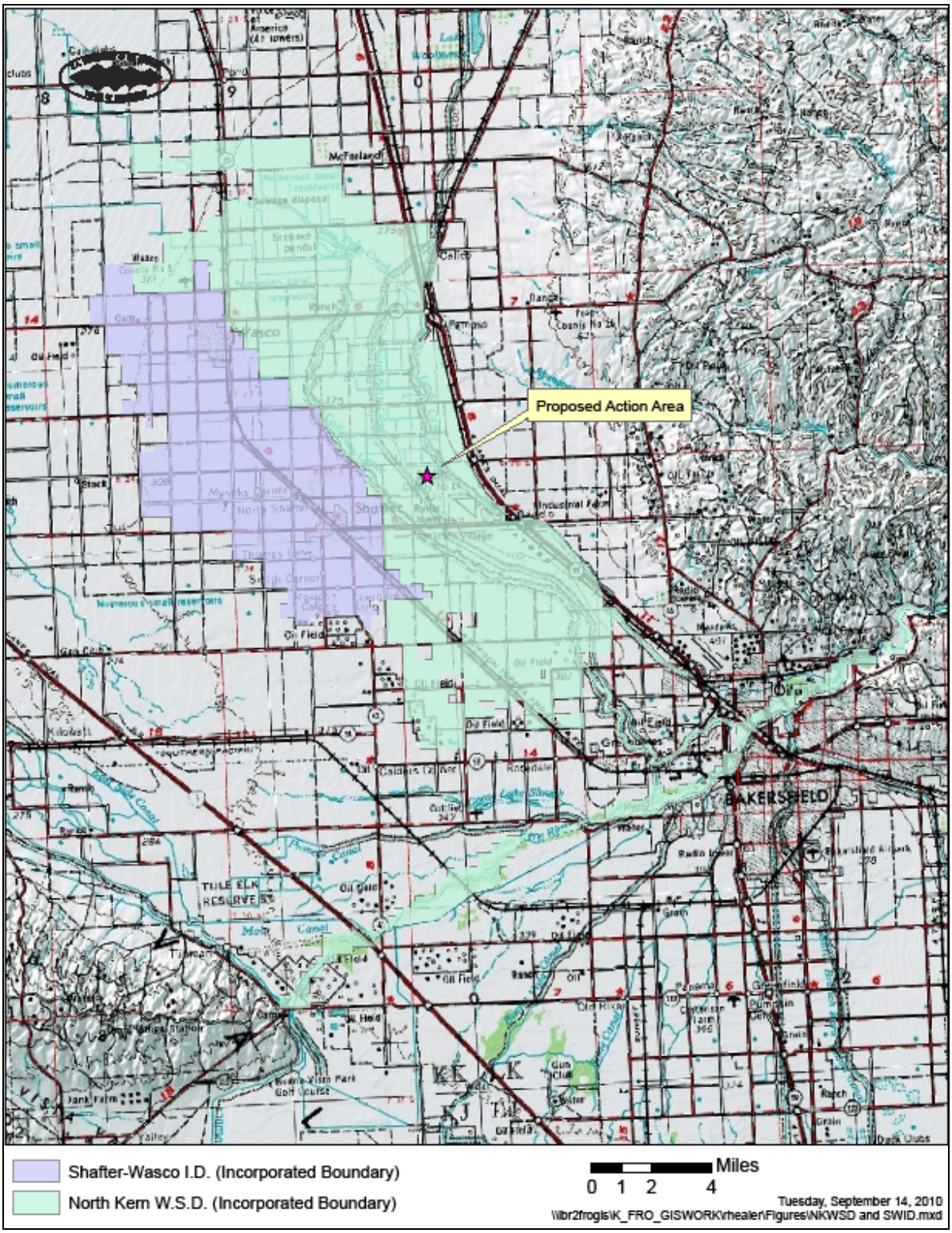

Figure 1-1 Proposed Action Location

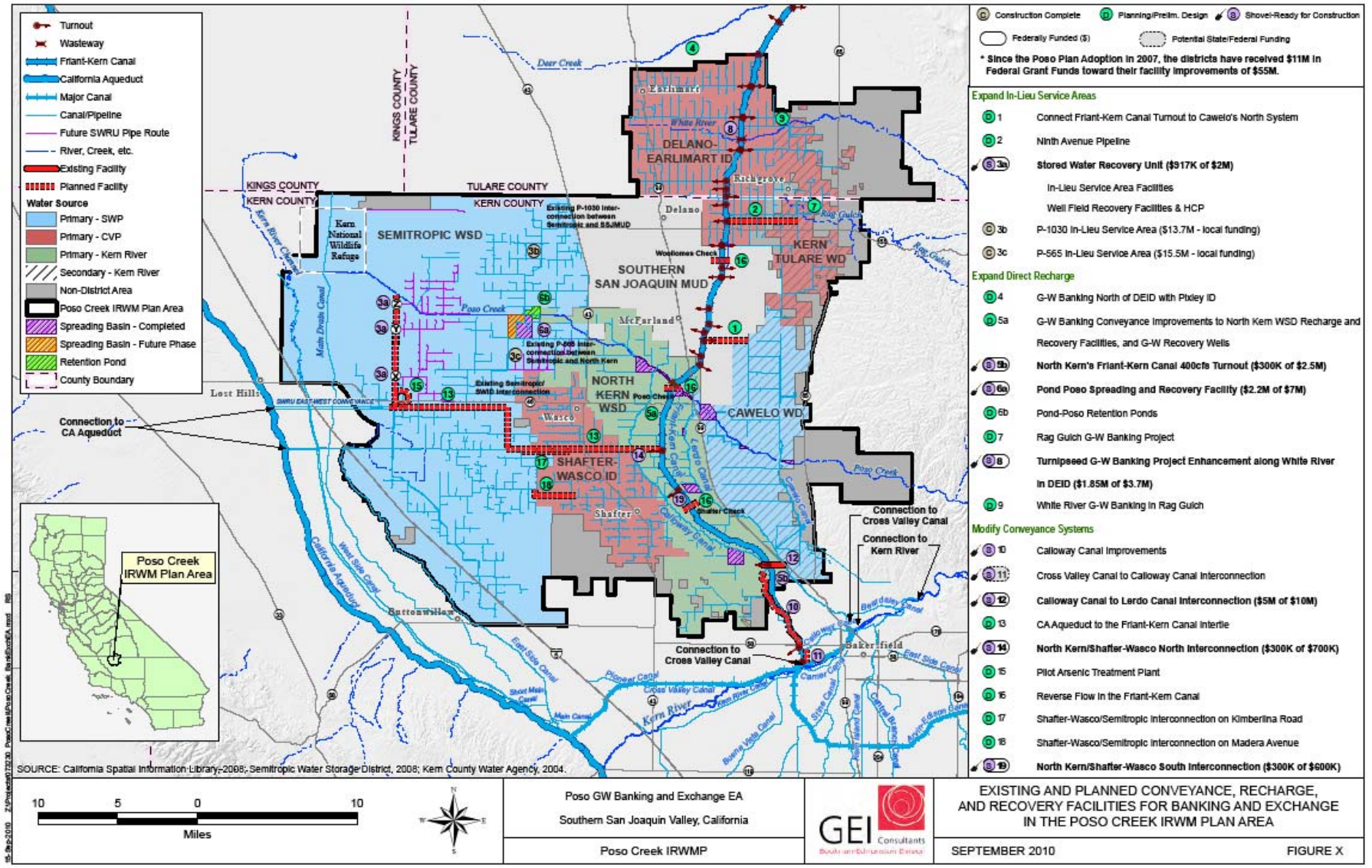

Figure 1-2 Completed and Proposed Projects for the Poso Creek IRWMP

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

Without federal funding assistance (the Proposed Action), construction of the proposed intertie would, at a minimum, be delayed. It is SWID's intent to eventually construct the proposed intertie; however, the timing is speculative and it is possible that the proposed intertie would never be built. Consequently, the No Action Alternative could have two possible scenarios: A) no change from existing conditions as the proposed intertie would not be built; or B) no change from existing conditions for at least a period of time, where the length of time is unknown, after which the proposed intertie would be built as described in Section 2.2 below and the impacts analyzed in Section 3 and 4 of this EA would be realized. Any other subsequent actions caused by scenario B of the No Action Alternative not already covered under Section 2.2 of this EA is speculative at best, is outside the scope of this EA, and may require additional environmental analysis. As a result, scenario A of the No Action Alternative will be analyzed from this point forward in order to reduce repeating information since scenario B mirrors the Proposed Action (but at a later date).

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not award a 2010 WaterSMART grant to SWID that would partially fund the construction of a new intertie between NKWSD's 8-5 Lateral Canal and SWID's Lateral 137.2 underground pipeline. The banking program between SWID and NKWSD would continue in its current limited capacity. Both SWID and NKWSD would continue to find ways to better manage their fluctuating water supplies in order to meet demands.

2.2 Proposed Action

Reclamation proposes to award a 2010 WaterSMART grant to SWID for the construction of an intertie between NKWSD's 8-5 Lateral Canal and SWID's Lateral 137.2 underground pipeline. The Proposed Action area is located within the SE ¼ of the NE ¼ of Section 1, Township 28 South, Range 25 East in Kern County, California. Construction components include installation of a new turnout within the 8-5 Lateral Canal and approximately 35 feet of 36-inch diameter steel pipe connecting the canal to Lateral 137.2. Access and staging for the Proposed Action would be within NKWSD's existing 8-5 Lateral Canal Operations and Maintenance Road (see Figure 2-1 for Proposed Action details). Photographs of the Proposed Action site can be found in Appendix B.

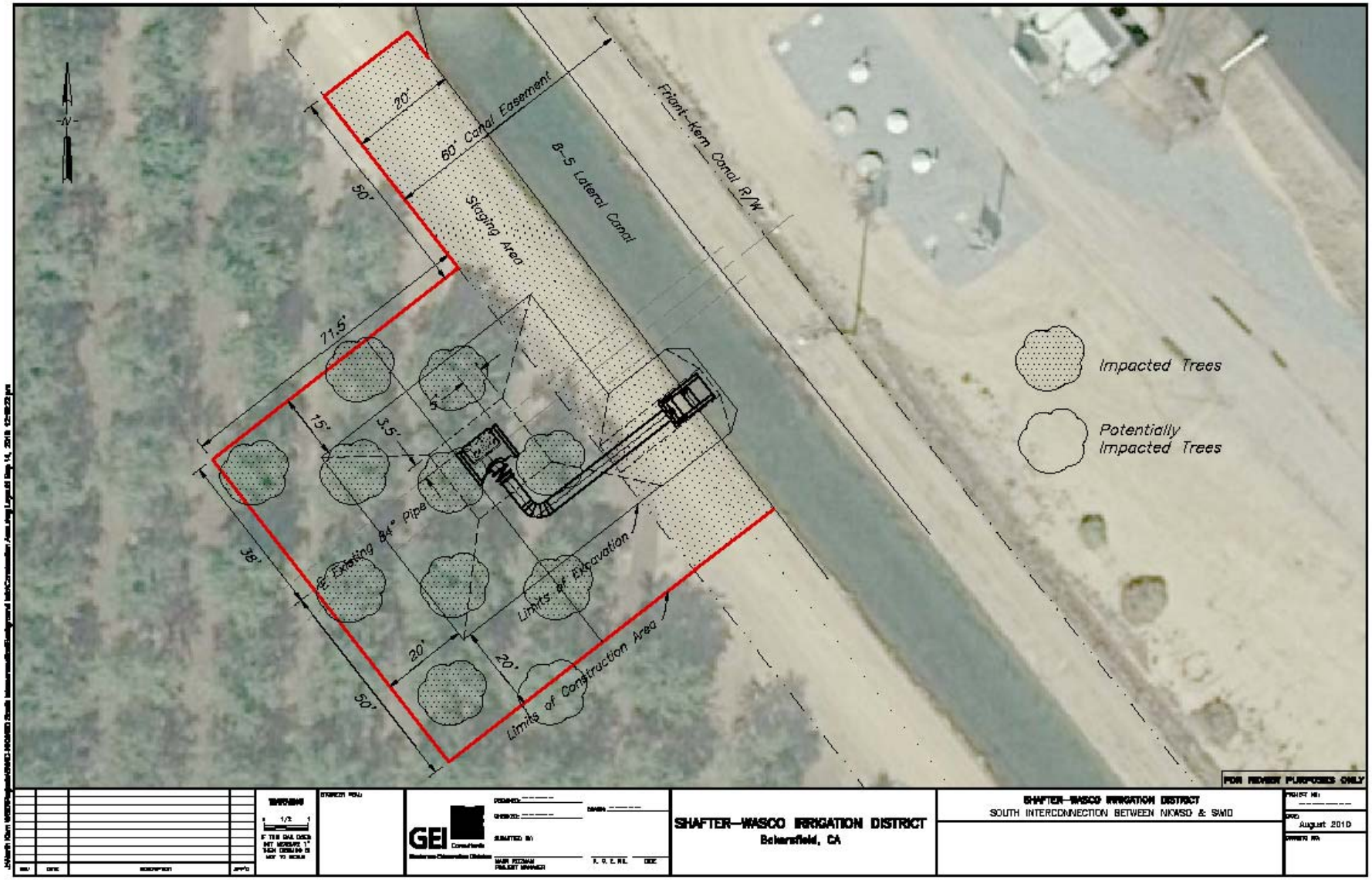

Figure 2-1 Proposed Action Area Details

2.2.1 Turnout Structure

The new turnout structure would be constructed of reinforced concrete and would be set in the right embankment of NKWSD's 8-5 Lateral Canal, an unlined irrigation ditch. The structure's approximate dimensions would be 11 feet deep by 11 feet long by 7 feet wide. It is estimated that about 100 cubic yards of excavation would be required, along with the placement of about 10 cubic yards of structural concrete. Approximately five cubic yards of rip rap would be placed in a 15 feet long by 10 feet wide and 1 foot thick area at the inlet of the new Turnout structure for energy dissipation (see Figure 2-1). A 36-inch sluice gate with travelling metal trash rack and grating would be installed within the turnout once the concrete work complete.

Construction of the turnout within the prism of the 8-5 Lateral Canal requires the canal to be dry during construction activities. Consequently construction would occur either during its normal dewatering period (November through the end of January) or when flows are bypassed via a 48-inch polyethylene pipe culvert.

2.2.2 Pipeline

A new 50-foot long, 36-inch diameter steel pipeline, with flow meter, would be installed underground to connect the new 8-5 Lateral Canal turnout structure to SWID's Lateral 137.2, an 84-inch diameter concrete underground pipeline. The new pipeline would lead away from the turnout structure for a straight run of about 35 feet before bending 90 degrees horizontally (to the north) and 45 degrees vertically (downwards) towards the point of connection with SWID's existing 84-inch diameter concrete pipe (see Figure 2-1). An 84-inch by 84-inch by 36-inch steel tee would connect the new pipeline to the existing underground concrete pipe.

For pipeline access, a 30-inch access manway would be installed within the straight portion of the pipeline. A 60-inch diameter concrete vault would be installed from the ground surface to the access manway. The vault would consist of traffic-rated, precast concrete sections with a 30-inch diameter traffic-rated cast iron lid. The lid would be placed above the access manway at final grade. The section of pipe with the access manway would be encased in approximately three cubic yards of structural concrete in order to support the concrete vault above it.

2.2.3 Construction Details

Up to 11 almond trees would be removed for access to the construction area (see Figure 2-1). The trees would be replanted once construction is complete. Construction of the turnout would involve excavating the right embankment of the 8-5 Lateral Canal with an excavator; delivering lumber and rebar for forming the turnout structure via flatbed trucks; delivering and placing concrete with a mixer-equipped concrete truck and pump; backfilling and compacting the previously-excavated material around the turnout structure with a front-end loader, compactor, and mechanical hand compactor; lifting and installing the 36-inch sluice gate, grating, and trash rack with a crane; and placing one foot thick rip rap around the inlet of the structure using a front-end loader. Finish work would include final grading and other miscellaneous metalwork.

Trenching for the straight portion of the new pipeline would be approximately 15 feet wide at the top and 5 feet wide at the bottom and 10 feet deep with 1:1 side slopes. After the 90 degree bend, the pipe would continue downwards until it reaches the connection point with the existing 84-inch pipeline. Excavation at the connection point would be 19 feet by 14 feet and 20 feet

deep in order to connect the 84-inch by 84-inch by 36-inch tee to the existing pipeline. The total volume of excavation required for the pipeline would be approximately 500 cubic yards. Pipeline would be installed in the open trench and then backfilled, with the shallowest section of pipe having 6 feet of cover and the deepest section having 14 feet of cover. The construction process would involve trenching with excavators; delivery of pipe via a flatbed truck; unloading the pipe with a crane as appropriate; pipe laying and welding; pipe zone backfill with a front-end loader and excavator; trench backfill with a front end loader or bulldozer and compactor; and final grading. Water trucks may be used to control dust and to moisture condition the pipe backfill as needed.

Ground disturbance for the whole project would be approximately 0.56 acres. All excavated areas would be backfilled and compacted.

2.2.4 Facility Operation

Both the flow meter and the travelling trash rack would require electrical power in order to function. SWID would connect both to the existing power pole at their turnout on the Friant-Kern Canal located directly east of the Proposed Action location (see Figure 2-1). This connection would require installing electrical conduit underground within the Proposed Action area identified in Figure 2-1.

Water would only move in one direction via gravity from the 8-5 Lateral through the new pipeline to the existing Lateral 137.2. No additional power or pumping would be required.

2.3 Environmental Protection Measures

If the Proposed Action does not occur within 30 days of the previous survey for kit foxes and burrowing owls, SWID would implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (see Table 2-1). Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of any biological resource survey reports must be submitted to Reclamation.

Table 2-1 Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources	Preconstruction surveys and implementation of avoidance and minimization measures for burrowing owl (CDFG 1995; see Appendix C).
Biological Resources	Preconstruction surveys and implementation of avoidance and minimization measures for San Joaquin kit fox (USFWS 1999; see Appendix C).

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Water Resources

3.1.1 Affected Environment

Shafter-Wasco Irrigation District

SWID entered into a long-term renewable contract with Reclamation in 1955 for 50,000 acre-feet per year (AFY) of Class 1 and 39,600 AFY of Class 2 water from the Central Valley Project (CVP) Friant Division for agricultural use. SWID obtains its CVP water supplies from two turnouts on the Friant-Kern Canal at Milepost (MP) 134.4 and MP 137.2. The district's distribution system is 0.3 miles of lined canals and 117 miles of pipeline. SWID does not own or operate any water storage facilities or groundwater extraction facilities. Landowners must provide wells to meet irrigation demands when SWID does not have adequate surface water supplies available.

The long-term average CVP water supply delivered to SWID is about 69,000 acre-feet. SWID has historically transferred water to Kern-Tulare Water District and banked and exchanged water with NKWSD.

North Kern Water Storage District

NKWSD water distribution system consists of a network of approximately 20 miles of lined canals and 65 miles of unlined canals. NKWSD's primary source of surface water is the Kern River, whose waters have been utilized under a schedule of long-standing diversion rights. This supply has occasionally been supplemented by water from Poso Creek, which transverses the northern portion of NKWSD. Poso Creek contributes to the underlying groundwater supply primarily through infiltration. While NKWSD is not a long-term CVP contractor, it has intermittently purchased and diverted "surplus" CVP water from Millerton Lake. Groundwater is used to satisfy all irrigation water requirements in excess of available surface water supplies.

Historical water supplies to NKWSD from the Kern River have ranged from less than 10,000 AFY to nearly 400,000 AFY. As a result of this highly variable water supply, NKWSD has developed an extensive groundwater recharge and extraction program using the groundwater reservoir to regulate its water supplies. NKWSD has successfully operated this program for over 50 years and seeks to enhance its existing program by expanding its exchange capabilities with other water agencies.

Conjunctive Use

Both SWID and NKWSD conjunctively use surface water and groundwater to meet irrigation water requirements. When available, surface water is stored by the districts within the

underlying groundwater basin for later use. When needed stored groundwater is pumped by each of the districts and their respective landowners to meet irrigation water requirements.

Groundwater Resources

The southern San Joaquin Valley is located within the Tulare Lake Hydrologic Region, which is essentially a closed basin, with principal drainages from the Kings, Kaweah, Tule, and Kern Rivers (DWR 2005). These streams are the principal source of natural recharge to the underlying groundwater basin with applied irrigation also being a large contributor. The Kern County subbasin, with a surface area of approximately 1,945,000 acres, is one of seven subbasins designated by the California Department of Water Resources (DWR) within the Tulare Lake Hydrologic Region (DWR 2006). The Kern County groundwater subbasin has been identified as being critically overdrafted (DWR 2005) in large part due to the heavy reliance on groundwater pumping for irrigation. By definition, "a basin is subject to critical conditions of overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts" (DWR 2005).

Subsidence

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater pumping, hydrocompaction caused by application of water to dry soils, and oil mining (Poland and Lofgren 1984). Large withdrawal of groundwater within the San Joaquin Valley between the 1920's and 1960's for agricultural irrigation caused significant overdraft within the central west side of the valley and most of the southern valley causing substantial land subsidence within those areas (Poland and Lofgren 1984). Importation of surface water from the CVP and State Water Project (SWP) in the 1970's, decreased the rate of groundwater withdrawal allowing aquifer levels to recover subsequently reducing subsidence rates (Poland and Lofgren 1984). Recently, groundwater pumping rates have increased throughout the San Joaquin Valley due to a series of drought years and curtailments of water deliveries from the CVP and SWP due to implementation of environmental protection measures.

3.1.2 Environmental Consequences

3.1.2.1 No Action

Under the No Action Alternative, SWID and NKWSD would continue to use available resources to meet irrigation demands within their districts including currently approved banking programs. Additional groundwater pumping may be required to meet irrigation needs creating further demands on an already critically overdrafted groundwater basin and subsidence issues could worsen. In addition, movement of banked water between SWID and NKWSD would continue to be limited due to the condition of existing facilities.

3.1.2.2 Proposed Action

The Proposed Action would enable SWID and NKWSD to move water more efficiently between their districts. It would also allow NKWSD to return banked water by SWID that previously had been unable to be returned due to capacity restrictions from the temporary infrastructure between the districts (SWID 2010b). Therefore, the Proposed Action would have beneficial impacts on surface water resources within the districts. Additional surface water and groundwater banking for conjunctive use would reduce the need to pump additional groundwater without recharge to

meet irrigation demands. This would prevent additional subsidence in the area by reducing demands on the critically overdrafted groundwater basin providing a slight beneficial impact to groundwater resources.

3.1.2.3 Cumulative Impacts

The Proposed Action would provide additional opportunities for SWID and NKWSD to participate in transfers, exchanges and groundwater banking programs as they are developed in the region. Additional opportunities for acquiring surface water supplies would have a cumulatively beneficial impact on water resources for SWID and NKWSD as they could be banked in times of surplus for later use during times of need. Banking of surplus surface water would also have a slight cumulatively beneficial impact on groundwater levels as a portion of all banked water is left in the aquifer for recharge potentially reducing further subsidence in the area.

3.2 Land Use

3.2.1 Affected Environment

SWID was formed in 1937 and is located in Kern County about 20 miles northwest of Bakersfield. Currently, the District is comprised of 38,766 acres, of which 32,000 are irrigated. Included within the district's boundaries are the cities of Shafter and Wasco covering approximately 2,400 acres. The main crops in SWID are almonds, cotton, alfalfa, nursery stock, grains, grapes, black-eyed beans and carrots. SWID has a history of transferring small amounts of water to neighboring districts.

The NKWSD is situated in the San Joaquin Valley portion of Kern County immediately east of SWID (see Figure 1-1) and encompasses about 60,000 acres. NKWSD is fully developed to irrigated agriculture, with almonds and grapes accounting for about 50 percent of the cropped area and stone fruit comprising the remaining amount.

The Proposed Action area is considered Prime Farmland by the National Resources Conservation Service.

3.2.2 Environmental Consequences

3.2.2.1 No Action

There would be no impacts to land use within the Proposed Action area as conditions would remain the same as existing conditions.

3.2.2.2 Proposed Action

During construction of the Proposed Action, approximately 11 trees would be removed from an existing orchard. These trees would be replanted once construction was complete. Although the Proposed Action area is considered Prime Farmland, impacts would be temporary and the area restored to its current use once construction was complete. Therefore, there would be no adverse impact to land use or agricultural resources as a result of the Proposed Action.

3.2.2.3 Cumulative Impacts

Prime Farmland and agricultural use of the Proposed Action area would be restored to its current use once construction is completed. There would be slight beneficial impacts to land use as water would be moved more efficiently between the districts to irrigate Prime Farmland.

3.3 Biological Resources

3.3.1 Affected Environment

As the lands within NKWSD are fully developed to agriculture, specifically permanent crops, they do not have much value to special-status species. However, some species, such as the San Joaquin kit fox, may forage (but not den) in areas with permanent crops when these lands are near enough to more suitable lands (Warrick et al. 2007). The lands within SWID are nearly all developed to irrigated agriculture, as well, with fewer acres in permanent crops. In 2000, the most recent year for which Reclamation has land use data, there was some alkali scrub just south of the district's border. Aerial imagery from 2005 appears to indicate that that use of most of the land had not changed at that point. If this land still exists, it would be of greater value to native species than the agricultural land, although it is a relatively small and isolated area. The Proposed Action area consists of agricultural lands surrounded by more agricultural lands. This area was surveyed on October 6, 2010 by William Vanherweg and no evidence of either San Joaquin kit fox or western burrowing owl use was found; other sensitive species were found not to have any potential to occur at the site.

The following list was obtained on November 1, 2010 by accessing the U.S. Fish and Wildlife Database: http://www.fws.gov/sacramento/es/spp_list.htm (document number 101101024415). The list is for the following 7 ½ minute U.S. Geological Survey quadrangles: Famoso, Wasco and Rosedale.

Table 3-1 Federal Status Species on Quad Lists

Species	***Status[1]***	***Effects[2]***	***Summary basis for ESA determination***
Amphibians			
California red-legged frog (*Rana aurora draytonii*)	T	NE	No suitable land in construction area; no other land use change would occur; species likely extirpated from valley floor.
Fish			
delta smelt (*Hypomesus transpacificus*)	T	NE	Proposed Action area does not include the Sacramento-San Joaquin delta.
Invertebrates			
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T	NE	No suitable land in construction area; no other land use change would occur.
vernal pool fairy shrimp (*Branchinecta lynchi*)	T	NE	No vernal pools in Proposed Action area.

Species	***Status[1]***	***Effects[2]***	***Summary basis for ESA determination***
Mammals			
giant kangaroo rat (*Dipodomys ingens*)	E	NE	No suitable land in construction area; no other land use change would occur.
San Joaquin kit fox (*Vulpes macrotis mutica*)	E	NE	Marginal foraging habitat exists at construction site, but no evidence of use found.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	E	NE	No suitable land in construction area; no other land use change would occur.
Plants			
California jewelflower (*Caulanthus californicus*)	E	NE	No suitable land in construction area; no other land use change would occur.
San Joaquin woolly-threads (*Monolopia congdonii*)	E	NE	No suitable land in construction area; no other land use change would occur.
Reptiles			
blunt-nosed leopard lizard (*Gambelia sila*)	E	NE	No suitable land in construction area; no other land use change would occur.
giant garter snake (*Thamnophis gigas*)	T	NE	No suitable land in construction area; no other land use change would occur; species believed to have been extirpated from Tulare Basin except Burrel/Lanare.

1 Status= Listing of Federally special status species
E: Listed as Endangered
T: Listed as Threatened
X: Critical Habitat designated for this species
2 Effects = Endangered Species Act Effect determination
NE: No Effect
NLAA: May affect, not likely to adversely affect
LAA: May affect, likely to adversely affect

3.3.2 Environmental Consequences

3.3.2.1 No Action

The temporary disturbance associated with tree removal and trenching for the pipeline would not occur. Consequently, no impacts to special-status species would occur in the Proposed Action area.

3.3.2.2 Proposed Action

There would be a temporary disturbance as a result of the tree removal and trenching for the pipeline. Currently there are no special-status species using the portion of the Proposed Action area that would be impacted. If the work does not occur within 30 days of the previous survey for kit foxes and burrowing owls, another survey would be required. Avoidance measures would

be required for kit foxes, and for burrowing owls if any are subsequently found. The survey and measures would prevent any impacts on special-status species.

3.3.2.3 Cumulative Impacts

As the Proposed Action would not result in any direct or indirect impacts on special-status species, it would not contribute cumulatively to impacts on these resources.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area can include historical resources associated with agriculture but are also often prehistoric in nature and can include remnants of native villages inhabited before European settlement. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the San Joaquin Valley have been limited. The conversion of land and intensive farming practices over the last century may have disturbed many Native American cultural sites.

Archival investigation, public outreach, and pedestrian survey revealed that the only cultural resources within the Proposed Action area are NKWSD's 8-5 Lateral Canal and SWID's Lateral 137.2 underground pipeline. The 8-5 Lateral was recently built and does not meet the criteria to be considered a historic property. The Lateral 137.2 built in the 1950's is not formally listed as a historic property but, for the purpose of this Proposed Action, it has been assumed eligible to the

National Register for its significant contribution to the development of irrigated agriculture in this portion of the San Joaquin Valley.

3.4.2 Environmental Consequences

3.4.2.1 No Action
There would be no impacts to historic properties or cultural resources as conditions would remain the same as existing conditions and no ground disturbance would occur.

3.4.2.2 Proposed Action
Under the Proposed Action, construction would disturb a portion of the 8-5 Lateral Canal Lateral, a section of the 137.2 pipeline, and up to 11 trees within an immediately adjacent orchard. Identification efforts, as outlined in the affected environment section, were conducted and revealed the 8-5 Lateral Canal and the Lateral 137.2 underground pipeline were the only cultural resources within the Proposed Action footprint. Due to the short timeline of the Proposed Action, the limited opportunity for background research, and the minor action activities, Reclamation, assumed, for the purposes of this action and this action only, that the Lateral 137.2 underground pipeline was eligible to the National Register. Reclamation determined that the Proposed Action impacts would not have an adverse effect to historic properties pursuant to 36 CFR Part 800.5(b) and initiated consultation with SHPO on October 29, 2010. SHPO concurred with Reclamation's finding on November 2, 2010 (see Appendix E).

3.4.2.3 Cumulative Impacts
The Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to cultural resources.

3.5 Indian Trust Assets

ITA are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITA cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

3.5.1 Affected Environment
The nearest ITA is the Tule River Reservation approximately 39 miles northeast of the Proposed Action location.

3.5.2 Environmental Consequences

3.5.2.1 No Action
There would be no impact to ITA as conditions would remain the same as existing conditions.

3.5.2.2 Proposed Action
There would be no impact to ITA as there are none in the Proposed Action area.

3.5.2.3 Cumulative Impacts
There would be no cumulative impacts to ITA as there are none in the Proposed Action area.

3.6 Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

3.6.1 Affected Environment
Kern County relies to a large extent, either directly or indirectly, on agriculture for employment. Median family income within Kern County falls approximately $20,000 below the state's (U.S. Census Bureau 2008). Approximately 47 percent of the population within Kern County is of Hispanic or Latino origin, which compares to about one-third for the state as a whole (see Table 3-2). The market for seasonal workers on local farms also draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, increasing populations within these small communities during peak harvest periods.

Table 3-2 Kern County Demographics

	Kern County		California	
Demographics	**Estimate**	**Percentage**	**Estimate**	**Percentage**
Total Population	800,458	--	36,756,666	--
Male	--	42.7	--	50
Female	--	48.3	--	50
Two or more races	--	2.1	--	2.6
White	--	41.1	--	42.3
Black or African American	--	6.4	--	6.7
American Indian	--	1.8	--	1.2
Asian	--	4.0	--	12.5
Native Hawaiian/Pacific Islander	--	0.2	--	0.4
Hispanic	--	47.1	--	36.6

Source: U.S. Census Bureau 2008

3.6.2 Environmental Consequences

3.6.2.1 No Action
There would be no impact to minority and low-income populations as conditions would remain the same as existing conditions.

3.6.2.2 Proposed Action
The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations. Therefore, there would be no impact to minority and low-income populations as a result of the Proposed Action.

3.6.2.3 Cumulative Impacts
As there are no impacts to minority and low-income populations, there would be no cumulative impacts as a result of the Proposed Action.

3.7 Socioeconomic Resources

3.7.1 Affected Environment
The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. Agriculture and its related industries is the second largest industry within Kern County (U.S. Census Bureau 2010). In 2010, Kern County's unemployment rate of 15.1 percent exceeded the state average (California Employment Development Department 2010). The number of people below the poverty level was also greater than the state average (U.S. Census Bureau 2010). Additionally, the number of families in Kern County below the poverty line was nearly double the state's average (U.S. Census Bureau 2010).

3.7.2 Environmental Consequences

3.7.2.1 No Action
There would be no impact to socioeconomic resources as conditions would remain the same as existing conditions.

3.7.2.2 Proposed Action
The ability to more efficiently move water between SWID and NKWSD would allow the districts to better manage their fluctuating water supply. A more reliable supply is expected to have a beneficial impact on socioeconomic resources within the districts and the farming community by providing job stability and better planning.

3.7.2.3 Cumulative Impacts
The Proposed Action would have slight beneficial impacts on socioeconomics by sustaining existing crop lands and maintaining economic stability within SWID and NKWSD. It would not increase crop lands or change the existing economic conditions within either district beyond maintaining economic stability within the region and therefore would not contribute to cumulative effects on such resources.

3.8 Air Quality

Section 176 (C) of the Clean Air Act [CAA] (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal

actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.8.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide (CO), ozone (O_3), O_3 precursors such as volatile organic compounds (VOC), inhalable particulate matter between 2.5 and 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The SJVAB has reached Federal and State attainment status for CO, nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Federal attainment status has been reached for PM_{10} but is in non-attainment for O_3, $PM_{2.5}$, and VOC/ROG (see Table 3-3). There are no established standards for nitrogen oxides (NO_x); however, NO_x does contribute to NO_2 standards (SJVAPCD 2010).

Table 3-3 San Joaquin Valley Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
O_3	8 Hour	0.070 ppm (137 µg/m^3)	**Nonattainment**	0.075 ppm	**Nonattainment**
	1 Hour	0.09 ppm (180 µg/m^3)	**Nonattainment**	--	--
CO	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9.0 ppm (10 mg/m^3)	Attainment
	1 Hour	20.0 ppm (23 mg/m^3)	Unclassified	35.0 ppm (40 mg/m^3)	Unclassified
NO_2	Annual arithmetic mean	0.030 ppm (56 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1 Hour	0.18 ppm (338 µg/m^3)	Attainment	--	--
SO_2	Annual average	--	--	0.03 ppm (80 µg/m^3)	Attainment
	24 Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	1 Hour	0.25 ppm (655 µg/m^3)	Attainment	--	--
PM_{10}	Annual arithmetic mean	20 µg/m^3	**Nonattainment**	--	--
	24 Hour	50 µg/m^3	**Nonattainment**	150 µg/m^3	Attainment
$PM_{2.5}$	Annual Arithmetic mean	12 µg/m^3	**Nonattainment**	15 µg/m^3	**Nonattainment**

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
	24 Hour	--	--	35 µg/m^3	Attainment
Lead	30 day average	1.5 µg/m^3	Attainment	--	--
	Rolling-3 month average	--	--	0.15 µg/m^3	Unclassified

Source: CARB 2010; SJVAPCD 2010; 40 CFR 93.153
ppm = parts per million
mg/m^3 = milligram per cubic meter
µg/m^3 = microgram per cubic meter
-- = No standard established

3.8.2 Environmental Consequences

3.8.2.1 No Action

There would be no impact to air quality as no construction would occur and conditions would remain the same as existing conditions.

3.8.2.2 Proposed Action

Operation of the proposed intertie would not contribute to criteria pollutant emissions, as movement of water would be gravity fed. However, there would be temporary emissions associated with construction activities. Construction is expected to take approximately three months to complete. Construction equipment would include: excavator, flatbed trucks, concrete truck and pump, front-end loader, bulldozer, compactor, mechanical hand compactor, crane, and water trucks. Estimated air quality emissions for construction activities associated with the Proposed Action were calculated utilizing the South Coast Air Quality Management District's *EMFAC2007 Version 2.3* emission factors (see Appendix D). Annual estimated emissions can be found in Table 3-4.

Table 3-4 Estimated Emissions due to Construction of the Proposed Action

Source	Total Emission (Tons per Year)							
	CO	VOC	NO_x	SO_x	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Site Preparation/Ground Disturbance	0.00	0.00	0.00	0.00	0.14	0.03	0.34	0.00
Concrete Paving Operations	0.04	0.01	0.09	0.01	0.01	0.01	4.79	0.00
Total Emissions	**0.04**	**0.01**	**0.09**	**0.01**	**0.15**	**0.04**	**5.13**	**0.00**
Conformity Thresholds (SJVAPCD)	**100**	**NA**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = not applicable. SO_x = sulfur oxides CO_2 = carbon dioxide CH_4 = methane

Estimated construction emissions are well below the *de minimis* thresholds established by the SJVAPCD. In addition, SWID would employ best management practices to reduce fugitive dust emissions during ground disturbance. Consequently, the Proposed Action would not result in an adverse impact upon air quality.

3.8.2.3 Cumulative Impacts

Construction, operation and maintenance emissions for the Proposed Action are well below the *de minimis* thresholds established by the SJVAPCD and are expected to be temporary in duration. As a result, the Proposed Action is not expected to contribute to cumulative adverse impacts to air quality.

3.9 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2010a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as CO_2, occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO_2, CH_4, nitrous oxide, and fluorinated gasses (EPA 2010a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO_2 and CH_4, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2010b).

3.9.1 Affected Environment

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.9.2 Environmental Consequences

3.9.2.1 No Action

There would be no impacts to global climate change from this alternative as conditions would remain the same as existing conditions.

3.9.2.2 Proposed Action

Estimated annual emissions of CO_2 for construction of the Proposed Action are 5.13 tons. Therefore, the Proposed Action's construction timeframe of 3 months would equate to approximately 1.3 tons of CO_2 emissions. There are no estimated emissions for CH_4 (see Table 3-4). Operation of the proposed intertie would not produce GHG as movement of water would be gravity-fed and would not require the use of power. Calculated CO_2 and CH_4 emissions for the construction and operation of the Proposed Action alternatives are estimated to be well below the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, the Proposed Action would result in below *de minimis* impacts respecting global climate change.

3.9.2.3 Cumulative Impacts

GHG emissions are considered cumulatively significant; however, the estimated annual CO_2 and CH_4 emissions are well below the 25,000 metric tons per year threshold for reporting GHG emissions. As a result, the Proposed Action is not expected to contribute cumulatively to global climate change.

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Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA.

4.2 Fish and Wildlife Coordination Act (16 USC § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the U.S. Fish and Wildlife Service and State fish and wildlife agencies "whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license". Consultation is to be undertaken for the purpose of "preventing the loss of and damage to wildlife resources".

Reclamation's Proposed Action is the awarding of a grant to SWID for construction of a new intertie between NKWSD's 8-5 Lateral Canal and SWID's Lateral 137.2 underground pipeline. Reclamation is not directly undertaking the project and will not be issuing federal permits or licenses for the Proposed Action. Consequently, Reclamation has determined that the FWCA does not apply to the Proposed Action.

4.3 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined that no federally listed or proposed species or critical habitat would be affected as a result of the Proposed Action and consultation is therefore not required. A pre-activity survey and avoidance measures would protect the San Joaquin kit fox from any impacts.

4.4 National Historic Preservation Act (16 USC § 470 et seq.)

The NHPA of 1966, as amended (16 USC 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation determined that the Proposed Action impacts would not have an adverse effect to historic properties pursuant to 36 CFR Part 800.5(b) and initiated consultation with SHPO on October 29, 2010. SHPO concurred with Reclamation's finding on November 2, 2010 (see Appendix E).

4.5 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

A pre-activity survey and avoidance measures would protect western burrowing owls from any take and ensure compliance with the MBTA.

4.6 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The Proposed Action would not affect either concern.

4.7 Clean Air Act (42 USC § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 USC § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

Estimated emissions for construction of the Proposed Action are well below the SJVAPCD's *de minimis* thresholds; therefore, a conformity analysis is not required and there would be no adverse impacts to air quality.

4.8 Clean Water Act (16 USC § 703 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No pollutants would be discharged into any navigable waters under the Proposed Action so no permits under Section 401 of the CWA are required.

Section 404

Section 404 of the CWA authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 USC § 1344). No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA section 404 are not required.

Section 5 List of Preparers and Reviewers

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